

EXAM 1 - MATH 111

DATE: Friday, January 28

INSTRUCTOR: George Voutsadakis

Read each problem very carefully before starting to solve it. Each question is worth 3 points. It is necessary to show your work. Correct answers without explanations are worth 0 points.

GOOD LUCK!!

1. Find the equation of the straight line that passes through the point $(-3, 5)$ and is parallel to the line $3x + 5y = -18$.
2. Solve the absolute value inequality $|7x - 3| + 14 \geq 20$ and graph the solution set.
3. A landscape architect has included a rectangular flower bed measuring 9 feet by 5 feet in her plans for a new building. She wants to use two colors of flowers in the bed, one in the center and the other for a border of the same width on all four sides. If she can get just enough plants to cover 24 square feet for the border, how wide can the border be?
4. Solve the equation $21(x + 3)^2 = 2 + (x + 3)$.
5. Solve the rational inequality $\frac{x^2+7x+10}{4-5x} \geq 0$.
6. Find the domain of the function $f(x) = \sqrt{x^2 - 25}$.